

Notice of Allowability

Application No.

10/810,530

Examiner

Tim Bonura

Applicant(s)

BONO, JEAN-PIERRE

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed on 03/26/2004.
2. ☒ The allowed claim(s) is/are 1-34.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 03/26/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-34 are allowed.
2. The following is an examiner's statement of reasons for allowance:
 - a. Regarding claim 1, the prior art of record teaches of an invention that provides a method of providing a watchpoint in a computer system said method comprising the steps of modifying the system page table for a memory page containing a watchpoint, such that a page fault interrupt is triggered when said memory page is accessed.
(Paragraphs 0027-0031). One such example of the prior art is Moore, et al, U.S. Patent Application Publication Number 2003/0084375. The prior art of record, however, fails to teach or discloses singly or in combination with another reference the limitation of "said at least one processor being programmed with a periodic interrupt routine that is executed by said at least one processor for checking whether said at least one processor holds any spinlocks, and upon finding that said at least one processor does not hold any spinlocks, for executing the watchdog thread, and upon finding that said at least one processor holds at least one spinlock, for deferring execution of the watchdog thread until said at least one processor releases all of the spinlocks held by said at least one processor." In the Examiner's opinion, the subject matter sought to be patented as recited in the claims in this application has practical application in the field of fault avoidance.
 - b. Regarding claim 7, the prior art of record teaches of an invention that provides a method of providing a watchpoint in a computer system said method comprising the steps of modifying the system page table for a memory page containing a watchpoint, such that a page fault interrupt is triggered when said memory page is accessed.

(Paragraphs 0027-0031). One such example of the prior art is Moore, et al, U.S. Patent Application Publication Number 2003/0084375. The prior art of record, however, fails to teach or discloses singly or in combination with another reference the limitation of "said each of the processors being programmed with a periodic interrupt routine for checking whether said each of the processors holds any spinlocks, and upon finding that said each of the processors does not hold any spinlocks, for preempting execution of an interrupted current thread to permit execution of the watchdog thread, and upon finding that said each of the processors holds at least one spinlock, for deferring preemption of execution of the current thread for enabling execution of the watchdog thread once said each of the processors releases all of the spinlocks held by said each of the processors," In the Examiner's opinion, the subject matter sought to be patented as recited in the claims in this application has practical application in the field of fault avoidance.

c. Regarding claim 17, the prior art of record teaches of an invention that provides a method of providing a watchpoint in a computer system said method comprising the steps of modifying the system page table for a memory page containing a watchpoint, such that a page fault interrupt is triggered when said memory page is accessed.

(Paragraphs 0027-0031). One such example of the prior art is Moore, et al, U.S. Patent Application Publication Number 2003/0084375. The prior art of record, however, fails to teach or discloses singly or in combination with another reference the limitation of "said at least one processor being periodically interrupted for checking whether said at least one processor holds any spinlocks, and upon finding that said at least one processor does not hold any spinlocks, executing the watchdog thread, and upon finding that said at least one processor holds at least one spinlock, deferring execution of the watchdog thread until said at least one processor releases all of the spinlocks held by said at least

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one processor,” In the Examiner’s opinion, the subject matter sought to be patented as recited in the claims in this application has practical application in the field of fault avoidance.

d. Regarding claim 24, the prior art of record teaches of an invention that provides a method of providing a watchpoint in a computer system said method comprising the steps of modifying the system page table for a memory page containing a watchpoint, such that a page fault interrupt is triggered when said memory page is accessed.

(Paragraphs 0027-0031). One such example of the prior art is Moore, et al, U.S. Patent Application Publication Number 2003/0084375. The prior art of record, however, fails to teach or discloses singly or in combination with another reference the limitation of “said at least one processor being periodically interrupted for checking whether said at least one processor holds any spinlocks, and upon finding that said at least one processor does not hold any spinlocks, executing the watchdog thread, and upon finding that said at least one processor holds at least one spinlock, deferring execution of the watchdog thread until said at least one processor releases all of the spinlocks held by said at least one processor,” In the Examiner’s opinion, the subject matter sought to be patented as recited in the claims in this application has practical application in the field of fault avoidance.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tim Bonura**.

- The examiner can normally be reached on **Mon-Fri: 8:30-5:00**.
- The examiner can be reached at: **571-272-3654**.

5. If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's supervisor, **Scott Baderman**.

- The supervisor can be reached on **571-272-3644**.

6. The fax phone numbers for the organization where this application or proceeding is assigned are:

- **703-872-9306 for all patent related correspondence by FAX.**

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **receptionist** whose telephone number is: **571-272-2100**.

9. Responses should be mailed to:

- **Commissioner of Patents and Trademarks**
P.O. Box 1450
Alexandria, VA 22313-1450

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Tim Bonura
Examiner
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September 29, 2006

A handwritten signature in black ink, consisting of stylized, overlapping loops and a long horizontal stroke extending to the right.

SCOTT BADERMAN
SUPERVISORY PATENT EXAMINER